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**Attorneys for Plaintiff
Monster Energy Company**

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

MONSTER ENERGY COMPANY, a
Delaware corporation,

Plaintiff,

vs

VITAL PHARMACEUTICALS, INC.
d/b/a VPX SPORTS, a Florida
corporation; and JOHN H. OWOC a.k.a.
JACK OWOC, an individual,

Defendants.

| Case No. 5:18-cv-1882

Judge: Hon. Jesus G. Bernal

DECLARATION OF DR. NEIL SPINGARN

1 I, Dr. Neil Spingarn, declare as follows:

2 1. I am the President of S & N Labs, a Santa Ana, California based
3 analytical laboratory. This declaration is based upon my own personal knowledge
4 except where otherwise indicated, and if called as a witness, I could and would
5 testify to the facts stated herein.

6 2. I have been an analytical chemist for over forty years. I hold a PhD,
7 M.S., and M.Phil. in Pharmacology from Yale University, and a BA in Biochemistry
8 from the University of California, Los Angeles. I have taught chemistry courses at
9 University of New Haven and University of California, Irvine and held an academic
10 position at University of California, Los Angeles.

11 3. As President of S & N Labs, I am responsible for analyzing a wide
12 variety of products, including foods and drugs. S & N Labs employs several other
13 chemists who work under my direction and supervision, and I am in charge of quality
14 control for the laboratory.

15 4. Attached as Exhibit 1 is a true and correct copy of my curriculum vitae,
16 incorporated herein by reference, which sets forth in detail additional aspects of my
17 qualifications and background.

18 5. S & N Labs has been retained by counsel on behalf of Monster Energy
19 Company to test Defendant Vital Pharmaceuticals, Inc.'s ("VPX's") BANG energy
20 drink for certain components, including creatine, creatinine, creatyl-L-leucine (which
21 I understand VPX calls "Super Creatine"), branched-chain amino acids ("BCAAs"),
22 and CoQ10.

23 6. To test for these components, I first purchased several cans of VPX's
24 BANG Root Beer Blaze from a local merchant. For further testing, cans of BANG
25 Blue Razz and BANG Lemon Drop were subsequently purchased.

26 7. I analyzed samples from each of these cans using high pressure liquid
27 chromatography (HPLC). Liquid chromatography separates mixtures of components
28 by passing solutions of them through a column. Differences in component

1 interactions with the column interior impacts the rate at which they pass through the
2 column. After this separation, the components flow into a detector that records the
3 time and amount of material eluting from the column. This is a standard method for
4 analysis of components in foods, drugs, environmental testing and forensics.

5 8. Specifically, analyses were carried out on two HPLC instruments: a
6 Thermo Surveyor Plus and a Thermo Dionex Ultimate 3000. Both were configured
7 with photodiode array (PDA) detectors. Data was collected into Thermo's
8 Chromleon Chromatography Data System.

9 9. The products were transferred into small bottles and degassed using
10 ultrasonic cavitation. Portions were then diluted into the appropriate mobile phases
11 for each analysis. Separated peaks were compared to reference standard peaks of
12 known concentrations and the concentrations present in the products were calculated.
13 The "BCAA" content of the Root Beer Blaze was calculated by summing the
14 measured levels of leucine, isoleucine and valine.

15 10. Attached as Exhibit 2 is a summary of the results of the testing
16 performed by S & N Labs under my direction. The results are expressed as "mg/can"
17 assuming the labeled volume of 473 mL/can.

18 11. As discussed above, I understand that VPX uses the term "Super
19 Creatine" to refer to the creatyl-L-leucine component in its BANG energy drink. But
20 creatyl-L-leucine is not creatine.

21 12. Creatine is an amino acid present in all living organisms. Creatine is a
22 non-essential amino acid, meaning that the human body naturally manufactures this
23 amino acid as needed.

24 13. By contrast, creatyl-L-leucine is a chemically synthesized compound
25 that is molecularly distinct from both creatine or leucine. Creatyl-L-leucine is

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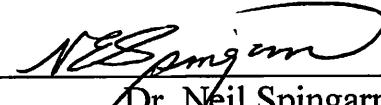
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1 described as a dipeptide (a chemical linking of two amino acids). Peptides can be
2 therapeutic or can be toxic. These properties of the combined drug are distinct from
3 the constituent amino acids.

4 I declare under penalty of perjury that the foregoing is true and correct.

5 Executed on this 9 day of April 2019, at Santa Ana, California.

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8 Dr. Neil Spingarn

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EXHIBIT 1

CURRICULUM VITAE

Name: **Neil Elliot Spingarn**
Place of Birth: Summit, New Jersey
Citizenship: USA

Address - Work: S & N Laboratories
2021 E. Fourth Street
Santa Ana, California 92705
(714) 543-2211

Education:

Yale University New Haven, CT	Ph.D.	9/74 - 12/78	Pharmacology
Yale University	M.S., M.Phil.	9/74 - 12/76	Pharmacology
University of California	B.A.	9/71 - 6/74	Biochemistry

Professional Experience:

1984 – present	President S & N Labs Santa Ana, CA
1985 – 1988	Instructor Hazardous Material Management Program University of California, Irvine, CA
1980 – 1984	Commercial Director IT Analytical Services Cerritos, CA
1980 – 1981	Assistant Professor Department of Pharmacology University of California, Los Angeles, CA
1978 – 1980	Postdoctoral Research Fellow American Health Foundation Valhalla, NY
1979	Visiting Scientist National Cancer Center Research Institute Tokyo, Japan
1977	Lecturer in Chemistry University of New Haven, New Haven, CT

Professional Societies:

Sigma Xi
American Chemical Society
Society for Applied Spectroscopy
American Society for Materials

Honors:

Fellow, NSF National Needs Postdoctoral Fellowship, 1978-1979
Fellow, National Cancer Institute Postdoctoral Fellowship, 1979-1980
Fellow, US-Japan Cooperative Cancer Research Program, 1979

Job Description:

Owner/Director of a consulting and independent analytical laboratory servicing the legal, academic and industrial communities. S & N Labs provides state-of-the art microanalytic capabilities as well as experts in various specialties within science, engineering and medicine. Job function is to supervise other experts as well as to provide direct consulting and analytical expertise.

Specific expertise is provided in all aspects of microanalysis, using such tools as Fourier-transform infrared microspectroscopy (FTIR), secondary ion mass spectroscopy (SIMS), scanning electron microscopy with energy-dispersive x-ray microanalysis (SEM-EDX), gas chromatography (GC), combined gas chromatography-mass spectroscopy (GC-MS), and polarized light microscopy (PLM). Additional expertise is provided in our findings and those of other laboratories related to forensics and toxicology.

Special Skills:

Microscopy (forensics, single particle or fiber identification)
Microanalytical chemistry (FT-IR), electron microscopy, x-ray analysis)
Surface analysis
Bioassays (microbial mutagenicity, toxicology, drug efficacy and levels)
Computerized literature searching

PUBLICATIONS

I. Research Articles

1. McCann, J., N.E. Spingarn, J. Kobori and B.N. Ames, *Proc. Nat. Acad. Sci. USA* 72:979-983 (1975) "Detection of carcinogens as mutagens: improved tester strains incorporating an R-factor".
2. Spingarn, N.E. and A.C. Sartorelli, *J. Med. Chem.* 22:1314-1317 (1979) "Synthesis and evaluation of the thiosemicarbazone, dithiocarbazone, and 2'-pyridylhydrazone of pyrazinecarboxaldehyde as agents for the treatment of iron overload".
3. Spingarn, N.E. and A.C. Sartorelli, *Int. J. Quantum Chem.* 18:493-500 (1980) "Mechanism of binding of iron to potential therapeutic chelating agents".
4. Spingarn, N.E. and C.T. Garvie, *J. Agric. Food Chem.* 27:1319-1321 (1979) "Formation of mutagens in sugar-ammonia model systems".
5. Spingarn, N.E. and J.H. Weisburger, *Cancer Letters* 7:259-264 (1979) "Formation of mutagens in cooked foods. I. Beef".
6. Spingarn, N.E., L.A. Slocum and J.H. Weisburger, *Cancer Letters* 9:7-12 (1980) "Formation of mutagens in cooked foods. II. Foods with high starch content".
7. Spingarn, N.E., H. Kasai, L.L. Vuolo, S. Nishimura, Z. Yamaizumi, T. Sugimura, T. Matsushima and J.H. Weisburger, *Cancer Letters* 9:177-183 (1980) "Formation of mutagens in cooked foods. III. Isolation of a potent mutagen from beef".
8. Kasai, H., Z. Yamaizumi, K. Wakabayashi, M. Nagao, T. Sugimura, S. Yokoyama, T. Miyazawa, N.E. Spingarn, J.H. Weisburger and S. Nishimura, *Proc. Japan Acad. Sci.* 56B:278-283 (1980) "Potent novel mutagens produced by broiling fish under normal conditions".
9. Weisburger, J.H., B.S. Reddy, P. Hill, L.A. Cohen, N.E. Spingarn and E.L. Wynder, *Bull. N.Y. Acad. Med.* 56:673-696 (1980) "Nutrition and Cancer – on the mechanisms bearing on causes of cancers of the colon, breast, prostate and stomach".
10. Spingarn, N.E., C.T. Garvie-Gould and L.L. Vuolo, *Analytical Chem.* 53:565-566 (1981) "Analysis of methanol for reverse-phase gradient elution liquid chromatography".
11. Spingarn, N.E., C.T. Garvie-Gould, L.L. Vuolo and J.H. Weisburger, *Cancer Letters* 12:93-97 (1981) "Formation of mutagens in cooked foods. IV. Effect of fat content on mutagenicity of fried beef patties".
12. Weisburger, J.H., N.E. Spingarn, Y.Y. Wang and L.L. Vuolo, *Cancer Bull.* 33:124-129 (1981) "Assessment of the role of mutagens and endogenous factors in large bowel cancer".
13. Kasai, H., Z. Yamaizumi, S. Nishimura, K. Wakabayashi, M. Nagao, T. Sugimura, N.E. Spingarn, J.H. Weisburger, S. Yokoyama and T. Miyazawa, *J. Chem. Soc. [Perkin I]* 8:2290-2293 (1981) "A potent mutagen in broiled fish. Part 1. 2-amino-3methyl-3H-imidazo[4,5]quinoline".
14. Wang, Y.Y., L.L. Vuolo, N.E. Spingarn and J.H. Weisburger, *Cancer Letters* 16:179-189 (1982) "Formation of mutagens in cooked foods. V. The mutagen reducing effect of soy protein concentrates and antioxidants during the frying of beef".

15. Spingarn, N.E., C.T. Garvie-Gould and L.A. Slocum, *J. Agric. Food Chem.* 13:301-304 (1983) "Formation of mutagens in sugar-amino acid model systems".
16. Spingarn, N.E., D.J. Northington and T. Pressely, *J. Chrom. Sci.* 20:286-289 (1982) "Analysis of volatile hazardous substances by gas chromatography-mass spectroscopy".
17. Spingarn, N.E., D.J. Northington and T. Pressely, *J. Chrom. Sci.* 20:571-574 (1982) "Analysis of non-volatile substances by gas chromatography-mass spectroscopy".

II. Books and Chapters

1. Spingarn, N.E., thesis for Yale University Graduate School, Department of Pharmacology (1978) "Development of iron chelators for the treatment of chronic iron overload".
2. Weisburger, J.H. and N.E. Spingarn, in: *Naturally-occurring Carcinogens-Mutagens and Modulators of Carcinogenesis* (J.A. Miller, E.C. Miller, T. Sugimura, S. Takayama and I. Hirano, eds.) University park Press, Baltimore, pp 177-184 (1979) "Mutagens as a function of mode of cooking of meat".
3. Weisburger, J.H., B.S. Reddy, N.E. Spingarn and E.L. Wynder, in: *Colo-rectal Cancer: Prevention, Epidemiology and Screening* (S.J. Winawer, D. Schottenfeld and P. Sherlock, eds.) Raven press, new York, pp 19-41 (1980) "Current views on the mechanisms involved in the etiology of colorectal cancer".
4. Weisburger, J.H., B.S. Reddy, N.E. Spingarn, L.A. Cohen, A Rivenson, J. Silverman and G.M. Williams, in: *Uitkomst en Uitzicht* (H. Maarse and B.J. Tinbergen, eds.) Pudoc, Wageningen, Netherlands, pp 201-215 (1980) "Nutrition and Cancer in man: experimental approaches".
5. Weisburger, J.H., B.S. Reddy, E.S. Fiala, Y.Y. Wang, L.L. Vuolo, E.L. Wynder and N.E. Spingarn, in: *Cancer: Achievements, Challenges and Prospects for the 1980s* (J. Burchnall and J. Oettgen, eds.) Grune and Stratton, New York, pp 595-612 (1981) "Dietary factors in the causation and prevention of neoplasia".
6. Wynder, E.L., G.D. McCoy, B.S. Reddy, L. Cohen, P. Hill, N.E. Spingarn and J.H. Weisburger, in: *Nutrition and Cancer* (N.M. Ellison and G.R. Newell, eds.) Raven Press, New York, pp 11-48 (1981) "Nutrition and metabolic epidemiology of cancers of the oral cavity, esophagus, colon, breast, prostate and stomach".
7. Barnes, W., N.E. Spingarn, C. Garvie-Gould, L.L. Vuolo, Y.Y. Wang and J.H. Weisburger, in: *The Maillard Reaction in Foods and Nutrition* (G.R. Waller and M.S. Feather, eds.) American Chemical Society, pp 485-506 (1983) "Mutagens in cooked foods: possible consequences of the Maillard reaction".

EXHIBIT 2

S & N LABS

2021 E. Fourth Street

Santa Ana, California 92705

(714) 543-2211

2 April 2019

Job Number: 22903

Hueston Hennigan LLP
523 West Sixth Street, Suite 400
Los Angeles, California 90014

REPORT

Four cans of Bang Root Beer Blaze with best-by date code 042619 were purchased on 23 January 2019. Cans of two other Bang flavors were obtained on 21 March 2019. The contents of these products were tested for several components. The methods used and results are summarized in the table below.

Composition (all values in mg/can)

Analyte	Method	Root Beer Blaze	Blue Razz	Lemon Drop
Creatine (mg/can)	HPLC	ND < 0.06	ND < 0.3	ND < 0.15
Creatinine (mg/can)	HPCL	0.41	TR < 0.4	TR < 0.1
Creatyl-L-leucine (mg/can)	HPLC	34	(NA)	(NA)
CoQ10 (mg/can)	HPLC	0.5	(NA)	(NA)
Leucine (mg/can)	HPLC	79	(NA)	(NA)
Isoleucine (mg/can)	HPLC	18	(NA)	(NA)
Valine (mg/can)	HPLC	27	(NA)	(NA)
Total BCAA (mg/can)	(calculation)	124	(NA)	(NA)

ND = not detected; TR = trace, below the detection limit stated; NA = not analyzed

/s/ Neil E. Spingarn

Neil E. Spingarn, Ph.D.
President